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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,125	02/20/2002	Marc Francis Vincent Dussac	L7307.01120	8207

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EXAMINER
LAVINDER, JACK W

ART UNIT	PAPER NUMBER
3683	

DATE MAILED: 08/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	09/980,125	DUSSAC ET AL.	
	Examiner	Art Unit	
	Jack W Lavinder	3683	

-- The MAILING DATE f this communication appears n the cover sheet with the c rrespondence address --

Period f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 6/30/03 ~~14 March 2003~~.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-43 is/are pending in the application.

4a) Of the above claim(s) 8-11,13,14,16-25, 27-37and 39 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7,12,15,26,38 and 40-43 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 4-7, 12, 15, 26 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Monroe, 1,995,620 in view of Shtarkman, 4,504,044.

Regarding claims 1, 26 and 38, Monroe discloses a damping structure (figure 2) having an internal cavity filled with an aggregate of solid bodies (40) in contact with each other, a rigid plate (22) and an elastic means (20). Monroe does not explicitly disclose an internal cavity completely filled with solid bodies (40), i.e., figure 2 only shows the solid bodies (40) filling-up half of the internal cavity. However, Shtarkman discloses a damper having an internal cavity (66, figure 1) completely filled with solid bodies (68). Therefore, it would have been obvious to a person having ordinary skill in the art to modify the amount of solid bodies in the internal cavity of Monroe to include an internal cavity completely filled with the solid bodies as taught by Shtarkman. The motivation for completely filling the internal cavity of the damper with solid bodies is to improve and change the damping characteristics of the damper (i.e., increase the dampening effect of the damper).

Regarding claim 2, Monroe discloses an elongate structure with an internal cavity longitudinally inside of the elongate structure (figure 2).

Regarding claim 4, Monroe discloses compact (as broadly read) solid bodies (40).

Regarding claims 5-7, Monroe discloses using a single particle size shape and material. Shtarkman discloses that the particles can be made of a variety of different materials, sizes and shapes (column 4, lines 54-end, column 5, lines 1-6). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the solid bodies of Monroe to have a different size, shape or composition, as taught by Shtarkman, in order to improve the damping effects of the damper.

Regarding claim 12, Monroe discloses using particles with liquid in the internal cavity of the damper (page 2, column 2, lines 34-37).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Monroe and Shtarkman as applied to claim 1 above, and further in view of Fukahori, 4,899,323.

Monroe in view of Shtarkman fails to disclose hollow solid bodies. Fukahori discloses using hollow solid bodies (5, 6) in combination with solid bodies in a damper in order to tune the damp to function most efficiently at various vibration ranges. Therefore, it would have been obvious to a person having ordinary skill in the art to add hollow bodies to Monroe's damper as taught by Fukahori in order to tune the damper for various vibration ranges. Thus, making a more versatile damper without having to change the structure of the damper--only have to change the make–up of the solid bodies.

Claims 40-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mouille, 4,458,862 in view of Monroe. Mouille discloses dampers (24, figures 1 and 2) on a rotary wing aircraft gearbox (15, figures 1-2). Mouille discloses a damper in the form of a weight (24) and an elastic lever arm (19c figures 1 and 2 or 19d, figures 3 and 4). Mouille does not disclose a damper having an aggregate. Monroe discloses a damper having an aggregate as mentioned above. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to attach the damper of Monroe to the lever arm (19c or 19d) of Mouille to more effectively damp the vibrations of the gearbox.

Response to Arguments

Applicant's arguments filed 6/30/03 have been fully considered but they are not persuasive. Applicant states on page 9, second paragraph, that "Monroe's device does not rely on particles 40 to make the vibration inhibitor function." The examiner disagrees. Monroe discloses in figure 2, a separate embodiment of the invention, which includes particles 40 acting as a means for reducing "the energy of vibration." (page 2, second column, lines 37-45)

Applicant argues on page 9, third paragraph, that Monroe teaches away from completely filling the internal cavity of the casing with solid bodies. Applicant argues that there must be a space in casing 10 to permit inertia member 22 to move relative to casing 10. The examiner disagrees. The inertia member would still move when the casing is completely filled with particles 40. The use of more particles in the casing will not prohibit movement of the inertia member. It will retard movement of the inertia

member when the casing is filled. This will change the damping characteristics of the damper to damp in a certain frequency range, but it will not prevent the inertia member from moving. For example, figure 1 of the British patent, 1293391, shows a damper casing (11) completely filled with particles 14 and the plate 12 can still move to transmit vibrations to the damping material 14 to damp out the energy of the vibrations.

The applicant argues on page 10, first paragraph, that the space above the inertia member 22 holds a gas and that gas moves from one side of the inertia member to the other to damp the vibrations. I agree that the first embodiment of Monroe functions in this manner. The second embodiment, which includes the particles 40, still can function in the same manner as the first embodiment with the additional damping provided from the particles filling the entire upper portion above the inertia member. Even though the area is filled with the particles, there are many gaps between the particles, which will allow the air to be compressed and to move from the topside of the inertia member to the bottom side.

The applicant argues on page 11 that applicant's plate, which is subject to elastic pressure, is not the inertial mass. This argument is not germane to the claimed subject matter. The claim calls for a rigid plate. Monroe discloses a rigid plate 22, which happens to also function as an inertia member to provide improved damping characteristics of the damper. Nothing in the claims precludes the plate from being an inertia member. Furthermore, anything that has mass can be considered an inertia member. Therefore, applicant's plate is also considered to be an inertia member.

The applicant argues on page 11 that Shtarkman's chambers 28 and 34 are not filled with particles. I agree that these chambers are not filled with particles. However, these chambers are not being used to teach a chamber being completely filled with particles. Chamber 66, 68 shows a chamber completely filled with particles for damping the vibrations transmitted to the damper.

The applicant argues on page 12, paragraph 3, that Shtarkman fails to disclose a rigid housing member. Applicant's argument is misplaced. Nothing in claim 26, requires that the housing members be rigid. The claim states "means for closing off the internal cavity...", which is the plate 10 or 11. Monroe discloses a rigid plate (22).

The applicant argues on page 12, paragraph 4, that Mouille does not disclose or suggest an internal cavity in a suspension bar. The argument is not persuasive since the claim never calls for a suspension bar having an internal cavity. Claim 44 states that one of the suspension bars comprises a damping structure including a member defining an internal cavity. The member is required to have the internal cavity. The damping structure could be a separate member that is attached to the suspension bar.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The two foreign references discloses cylindrical dampers having particles functioning as the damping fluid. British patent 1293391 and Russian patent 859716.

Any inquiry concerning this communication should be directed to Jack W Lavinder at telephone number 703-308-3421.

JACK LAVINDER
SUPERVISORY PATENT EXAMINER
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